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IMPLEMENTATION PLAN
TO STOCKPILE THORIUM CONTAMINATED DEBRIS FROM FACILITIES D&D PROJECTS

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

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U.S. DEPARTMENT OF ENERGY
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LIST OF ACRONYMS AND ABBREVIATIONS

D&D	Decontamination and Demolition
FEMP	Fernald Environmental Management Project
H	Horizontal
OMTA	On-Site Disposal Facility Material Transfer Area
OSDF	On-Site Disposal Facility
PWID	Project Waste Identification and Disposition Plan
A4B	Area 4B
V	Vertical
WAC	Waste Acceptance Criteria
WAO	Waste Acceptance Organization

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1.0 INTRODUCTION

1.1 Objectives

The objective of this plan is to establish locations and protocols for stockpiling approximately 5,500 cubic yards of thorium contaminated debris at the Fernald Environmental Management Project (FEMP). The debris will be generated by Decontamination and Demolition (D&D) activities at Plant 2/3, Plant 8 and the Pilot Plant from November 2002 through April 2003, during winter shutdown of the On-Site Disposal Facility (OSDF). Previously, the FEMP has mitigated the additional radiological hazards posed by thorium (i.e., alpha emitter) by managing this debris in roll-off boxes (ROBs) until it was placed in the OSDF. However, the amount of thorium contaminated debris that may be generated this winter would require use of more ROBs (approximately 300) than are feasible. The alternate approach described in this plan is designed to facilitate safe storage of the thorium contaminated debris with appropriate radiological controls, in stockpiles at or near the point of generation.

Note that the OSDF Material Transfer Area (OMTA) for Bulk Debris will continue to be used only for staging non-thorium contaminated debris, in accordance with conditions in the Management Plan for OMTA Bulk Debris Transfer Area (DOE 2001).

1.2 Scope

The scope of this plan is to site, construct and manage three (3) stockpiles that will be used for bulk staging of thorium contaminated debris, awaiting transport to the OSDF. The plan addresses the proposed stockpile locations, construction requirements, waste acceptance controls, and routine inspections and maintenance. Three (3) locations are being designated to ensure that traffic patterns will allow access/egress for the duration of the winter.

2.0 STOCKPILE LOCATION

The three (3) stockpiles identified in Figure 1 are within the former production area near planned D&D activities, at the following locations:

- Stockpile A4B-002 East of A Street, West of Pad 74 Q, North of Building 80 and South of 101st Street
- Stockpile A4B-003 West of B Street, Southeast of Building 8G and North of 1st Street
- Stockpile A4B-004 At B Street, East of Building 18B, North of 101st Street and South of 2nd Street

3.0 STOCKPILE CONSTRUCTION

3.1 Site Preparation

Existing surfaces of stockpile locations are a combination of gravel, concrete and asphalt. The surfaces shall be reviewed and gravel applied to any exposed soil surfaces. The stockpile footprints shall be roped off and posted with placards that identify the Material Tracking Location designation (A4B-002, A4B-003, A4B-004), waste acceptance criteria status (Meets OSDF WAC), and a Waste Acceptance Organization (WAO) contact name and telephone number.

3.2 Material Placement

The stockpiles shall be constructed with maximum slopes of 3H:1V and maximum height to base ratio of 0.2 when completed. A water mist shall be implemented during material placement, as necessary, to prevent fugitive dust.

Only debris approved by WAO shall be staged in the stockpiles. Debris that exceeds OSDF size requirements shall be size reduced to comply with OSDF material Category 2, prior to stockpiling. Any debris material not approved by WAO for placement in the stockpiles shall be segregated at the project location and provided alternate disposition, in accordance with the Project Waste Identification and Disposition Plan (PWID).

3.3 Environmental and Radiological Controls

Airborne emissions of thorium shall be mitigated through pre- and if necessary, post-placement applications of lock-down to the debris. Run-off from all three (3) stockpile locations drain to catch basins and manholes, is collected at the Storm Water Retention Basin and is treated at the Advanced Waste-Water Treatment facility. Catch basins and manholes shall be protected to ensure positive drainage.

4.0 WASTE ACCEPTANCE CONTROLS

4.1 Project Planning

Prior to startup of D&D project activities, WAO shall review any existing analytical data and process knowledge for anticipated waste streams. This information shall be utilized to select appropriate interim staging locations and final dispositions, and documented in the PWID as required by the WAC Attainment Plan for the OSDF (DOE 1998b). Only debris anticipated to meet the OSDF WAC shall be designated in the PWID for staging at A4B-002, A4B-003 and A4B-004. The PWID shall identify alternate dispositions (e.g., Waste Pits Remedial Action Project) for the balance of the anticipated materials.

4.2 Project Execution

WAO shall be present during transfer of debris to the stockpiles, to verify that there are no OSDF prohibited materials (e.g., residues) and that the debris meets OSDF material size requirements. WAO shall document the transfer of the debris from the source location to the stockpiles utilizing a Field Tracking Log.

4.3 Disposition of Stockpiles

WAO shall oversee load-out of the debris stockpiles to confirm the absence of prohibited items or conditions, and compliance with OSDF material size requirements. Only debris confirmed to meet the OSDF WAC shall be transferred from the stockpiles to the OSDF. WAO shall complete an OSDF Manifest for each load transferred to the OSDF.

5.0 INSPECTIONS AND MAINTENANCE

The stockpiles shall be inspected during use as well as during inactive periods to verify the following:

- Perimeter fencing is intact and in good condition;
- Stockpile signs are in place and legible;
- Catch basins and manholes remain functional; and
- Debris surfaces do not exhibit signs of erosion.

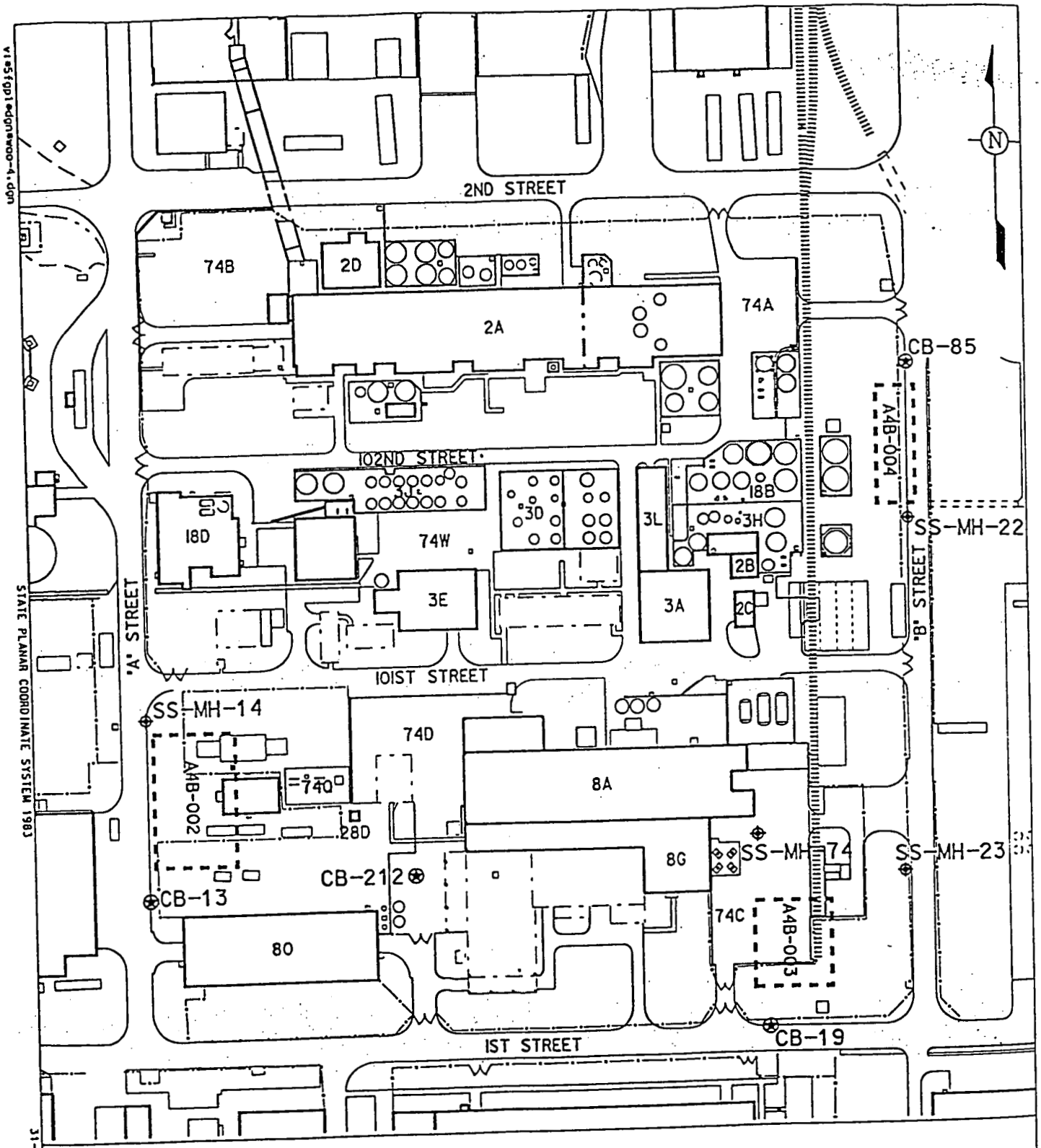
If deficiencies are identified, they shall be corrected in a timely manner, including but not limited to perimeter fence repairs, replacement of signs and reapplication of lock-down. Deficiencies with environmental impacts (e.g., eroded lock-down) or that jeopardize the WAC pedigree (e.g., breached perimeter fencing) shall be identified as a high priority for immediate correction.

6.0 REFERENCES

U.S. Department of Energy, 1998a, "Sitewide Excavation Plan," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 1998b, "Waste Acceptance Criteria Attainment Plan for the On-Site Disposal Facility," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2001, "Management Plan for OMTA Bulk Debris Transfer Area," Draft, Rev. C, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.



LEGEND:

- ------ THORIUM STOCKPILE LOCATIONS
- ⊛ CATCH BASIN (CB)
- ⊕ STORMSEWER MANHOLE (SS-MH)

FIGURE 1 THORIUM STOCKPILE LOCATIONS